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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/553,293

11/18/2005

Rolf Muller

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EXAMINER

MESH, GENNADIY

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/553,293	<b>Applicant(s)</b> MULLER ET AL.	
	<b>Examiner</b> GENNADIY MESH	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 October 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 13-29,31-33,35-41 and 44-52 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13-29,31-33,35-41 and 44-52 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |



### **DETAILED ACTION**

Applicant's Amendment filed on October 20, 2008 is acknowledged.

Claims 1-12, 30, 34 and 42-43 are cancelled by Applicant. Claim 52 is newly added. Claims 13-29, 31-33, 5-41 and 44-52 are active. Rejection is maintained as it was set forth in previous Office Action mailed on April 18, 2008.

### ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

1. Claims 13 – 29, 31-33, 35-37, 44-45 and 49-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jialanella ( US 6,300,398) in view of Polywax Polyethylene ( Baker – Hughes web site publication, Baker - Hughes hereafter).

Regarding Applicant's Claims 13, 31-33, 35-37 and 52 Jialanella discloses composition of a linear or substantially linear low density polyethylene and a wax, including low molecular weight polyethylene wax( see abstract, lines 10 –35 ,column 3 and line 20 –60,column 13), having polydispersity about 2 ( see column 13,lines 50 – 54).

Jialanella further discloses that linear or substantially linear low density polyethylene has degree of branching in a range from 0.01 – 3 per 1000, ( see line 40,column 3) which encompasses degree of branching claimed by Applicant for first

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polymer component P(i), but silent about branching degree of low molecular weight polyethylene wax, implying that any low molecular weight polyethylene wax, including wax with same degree of branching is known in the art (and commercially available), is suitable for the invention disclosed by Jialanella with reasonable expectation of adequate results.

However, low molecular polyethylene wax with no branching, 100% linear, that will satisfy limitations related to degree of branching claimed by Applicant disclosed by Baker –Hughes publication as being available for thirty years ( and incorporated herein as a reference).

Thus, use of 100% linear low molecular weight polyethylene wax in invention claimed by Jialanella would have been obvious with reasonable expectation of success absent showing of unexpected results that can be clearly attribute to claimed degree of branching.

Regarding Applicant's Claims 14 – 29 and 51 note, that composition disclosed by Jialanella in view of Baker - Hughes is being substantially same as Applicant's, will have substantially same physical properties including Modulus, Elongation at break, Stress Yield and Melt flow. Burden shifts to the Applicant to prove the contrary.

Regarding Claims 44 and 45 see Jialanella lines 54- 60, column 13 and 18 – 30, column 13.

Regarding Claim 49 Jialanella discloses that composition was prepared using Haake mixer ( see lines 55-65,column 23). Also note, that claim 49 is in format of product-by-process claim. In accordance with the applicable to the treatment of product-

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by-process claims (MPEP 2113), the process limitations in claim 49 have no probative value absent evidence to the contrary.

In addition note, that case law holds that "even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." See *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

Regarding limitation of Claim 50 as "swelling agent" – Jialanella discloses that composition can comprise plasticizer( see lines 24-29,column 2).

3. Claims 38 – 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jialanella ( US 6,300,398) in view of Baker - Hughes as applied to claims 13 – 29, 31-33,35 -37, 44-45 and 49-52 above, and in further view of Kokko ( Metallocene-Catalyzed Ethene Polymerization: Long-Chain Branched Polyethylene, September 2002).

Jialanella in view of Baker-Hughes discloses composition, comprising linear low density polyethylene, wherein this polyethylene polymer has long chain branching, but silent about length of the branching chains( see line 40,column 3).

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However, Kokko teach that short chain branches, less than 40 carbon atoms will interfere with formation of crystal structure of polyethylene ( see page 1,second paragraph) and when branch length increases they (chains) become able to form lamellar crystals.

Therefore, it would have been obvious to one ordinary of skill in the art at the time of the invention to use composition of Jialanella wherein polymer has long chain branching with length higher than 40 carbon atoms per teaching of Kokko, in order to increase overall crystallinity and probability for heterocrystallization with other polymers in composition.

4. Claims 46 – 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jialanella ( US 6,300,398 ) in view of Baker - Hughes as applied to claims 13 – 29, 31-33, 35 -37, 44-45 and 49-52 above and in further in view of Eastman publication ( EP) " Epolene E-20 Wax – Extrusion lubricant for Fractional Melt High-Density Polyethylene (HDPE)", pages 1-4, September 1999.

As it was discussed above Jialanella discloses composition, wherein low molecular component ( wax) has density at least about 0.925 g/cc or higher as most preferable, but not explicitly discloses waxes with density above 0.950 g/cc ( see lines 54-60,column 13) and pointing out that wax should have high melting point, preferably higher than 10<sup>0</sup> C and even more preferably 30<sup>0</sup> C than a polymer( see lines 18 – 25, column 13).

Note, EP publication discloses composition of HDPE with low molecular weight polyethylene wax, wherein wax ( see EP : "Epolene E-20", incorporated herein as a

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reference) has degree of polymerization low than 200, based on  $M_n$  value of 1600 and density 0.96 g/cc, which is indicate high degree of crystallinity and softening point above 110 °C.

Therefore, it would have been obvious to one ordinary of skill in the art at the time of the invention to substitute wax in composition discloses by Jialanella for Epolene E-20 or to wax with even higher melting point in order to increase working temperature range of the composition.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 13 - 29, 31 -33, 35-41 and 44-52 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims



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13-28 of copending Application No. 11/577,250. Although the conflicting claims are not identical, they are not patentably distinct from each other because:

1) claimed subject matter in both applications based on substantially same composition and

2) Claim 49 of Application No. 10/553,293 claimed use of this composition for variety of molded articles, which is the claimed subject matter of copending Application No. 11/577,250.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Response to Arguments***

6. Applicant's arguments filed on October 20, 2008 have been fully considered but they are not persuasive.

6.1. Applicant's arguments related to Claims 13 – 29, 31-33, 35-37, 44-45 and 49-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jialanella ( US 6,300,398) in view of Polywax Polyethylene ( Baker – Hughes web site publication) based on statement that Jialanella discloses degree of branching related to long chain branching, but will not meet requirements of newly amended Claim 13, because linear low density polyethylene ( LLDPE) disclosed by reference also has short chain branching in quantity higher than claimed by Applicant, because LLDPE has density no more than 0.910 g/cc and comonomer content of 7.3 mole %.

This argument was found unpersuasive for following reasons:

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a) It is noted that neither claims nor applicant's Specification providing teaching ( or definition) that term "degree of branching" represent sum of long and short branches.

Therefore, degree of branching in Applicant's claims could be understood as related to long or short branches and not necessary to sum of both.

b) It is clear that LLDPE with density less than 0.910 g/cc represent "preferred embodiment " disclosed by Jialanella ( see column 2, lines 65-68 and column 3, lines 1-4).

Note, that "The use of patents as references is not limited to what the patentees describe as their own inventions or to the problems with which they are concerned.

They are part of the literature of the art, relevant for all they contain." In re Heck, 699

F.2d 1331, 1332-33, 216 USPQ 1038, 1039 (Fed. Cir. 1983) (quoting In re Lemelson,

397 F.2d 1006,1009, 158 USPQ 275, 277 (CCPA 1968)). ... A reference may be relied

upon for all that it would have reasonably suggested to one having ordinary skill the art,

including nonpreferred embodiments. Merck & Co. v. Biocraft Laboratories, 874 F.2d

804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989). See *also* Celeritas

Technologies Ltd. v. Rockwell International Corp., 150 F.3d 1354, 1361, 47 USPQ2d

1516, 1522-23 (Fed. Cir. 1998)

In addition, Jialanella also pointing out ( see column 3, lines 33) that LLDPE with density as high as 0.935 g/cc can be used : " It is noted that substantially linear interpolymers **useful in the invention** differ from low density polyethylene prepared in a high pressure process. In one regard, whereas low density polyethylene is an ethylene homopolymer having a density of from about 0.900 to about **0.935** g/cm<sup>3</sup>, the homogeneous linear and substantially linear interpolymers **useful in the invention** require the presence of a

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comonomer to reduce the density to the range of from about 0.900 to about **0.935** g/cm.<sup>sup.3</sup>."

As it can be seen from Fig.1 ( A.J. Peacock, Handbook of Polyethylene) LLDPE with density 0.910 g/cc and higher will satisfy requirements of Claim 13 for degree of branching (short as content of comonomer), because not more than 2.0 mole % is needed in order to reduce density to 0.910 g/cc.

c) Note, that not only one LLDPE polymer can be used in invention, but also other type of polyethylene, including HDPE, which has very low degree of branching also can be used in invention ( see column 15, lines lines 50 - 68column 16, lines 1-8 : " While the hot melt adhesives of the invention will preferably comprise at least one homogeneous ethylene polymer, they may, **instead, or in addition, comprise any of a variety of traditional olefin polymers. ....**

Ethylene polymers and copolymers prepared by the use of a coordination catalyst, such as a Ziegler or Phillips catalyst, are generally known as linear polymers because of the substantial absence of branch chains of polymerized monomer units pendant from the backbone. High density polyethylene (HDPE), generally having a density of about 0.941 to about 0.965 g/cm.<sup>sup.3</sup>, is typically a homopolymer of ethylene, and it contains relatively few branch chains relative to the various linear copolymers of ethylene and an  $\alpha$ -olefin. HDPE is well known, commercially available in various grades, and **may be used in this invention**".

At least based on reasons above Applicant's arguments were not persuasive.

6.2. Applicant's also argue that Jialanella does not suggest use of extruders in order to compound polymers with wax.

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As it was stated in rejection above, because claim 49 is in format of product-by-process claim, the process limitations in claim 49 have no probative value absent evidence to the contrary.

In addition note, that single and multiscrew extruders (including twin screw extruders) routinely used in order to prepare polymeric compositions. Therefore, it is obvious to one skill in the art to use this type of compounding equipment, until unexpected results can be shown.

6.3. Regarding Applicant's arguments related to new Claim 52 and based on melting point note, that melting point value is not in scope of Claim 52.

Therefore, applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., as melting point) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

6.4. ODP rejection is maintained for the Record.

In addition note, that Applicant did not provide any arguments how amendment of Claim 13 will overcome ODP rejection.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GENNADIY MESH whose telephone number is (571)272-2901. The examiner can normally be reached on 10 a.m - 6 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272 1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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